

What is claimed is:

1. A releasable, sliding mount for connecting a component feeding system to an assembly machine in a repeatable manner, comprising:

5 a docking channel operatively affixed to the assembly machine, said docking channel including a pair of parallel grooves therein;

a positioning member associated with the docking channel; and

a plurality of rollers affixed to the component feeding system, whereby upon insertion of the component feeding system into the docking channel, said rollers are
10 received by said grooves within the docking channel.

2. The releasable, sliding mount of claim 1, further comprising means for locking the component feeding system into a defined position, wherein the position is controlled by the positioning member.

3. The releasable, sliding mount of claim 1, further comprising a safety stop for preventing the inadvertent removal of the component feeding system from the docking channel, wherein said safety stop is displaced so as to allow the component feeding system to be completely removed from the docking channel.

4. The releasable, sliding mount of claim 1, wherein the docking channel comprises a base plate and two vertical members.

5. The releasable, sliding mount of claim 4, wherein said vertical members
25 are generally parallel to one another and have said grooves extending along a longitudinal axis, wherein said grooves are staggered and on opposite sides of said vertical member so as to enable the grooves on each side of the vertical member to receive roller alignment rails from adjacent component feeding systems.

6. The releasable, sliding mount of claim 5, wherein said roller alignment rails move reciprocally along said grooves.

7. The releasable, sliding mount of claim 1, wherein said positioning member
5 comprises a bracket and a latch pin to control the inward position of the component feeding system in relation to said docking channel.

8. The releasable, sliding mount of claim 7, wherein said positioning member further comprises at least one alignment pin for engaging said component feeding
10 system, and where said alignment pin further positions said component feeding system.

9. The releasable sliding mount of claim 1, wherein said positioning device further comprises a latching mechanism operably engaging said component feeding
15 system, whereby said latching mechanism, when engaged, inhibits relative motion between the component feeding system and the docking channel.

10. A mounting device for connecting a plurality of component feeding systems to an assembly machine in a repeatable manner, comprising:
20 a plurality of docking channels operatively affixed to the assembly machine, each of said plurality of docking channels being separated by a common vertical member, said common vertical member having longitudinal grooves extending along opposite sides thereof;
a positioning member associated with each of the docking channels;
25 a plurality of roller alignment rails affixed to each of the component feeding systems, wherein said roller alignment rails are received by said longitudinal grooves upon insertion of the component feeding systems into the docking channels.

11. The mounting device of claim 10, further comprising means for locking the component feeding systems into positions defined by the respective positioning members.

5 12. The mounting device of claim 10, further comprising a safety stop associated with each docking channel for preventing the inadvertent removal of the component feeding systems from the docking channels, wherein said safety stop is displaced so as to allow the component feeding systems to be completely removed from the docking channel.

10 13. The mounting device of claim 10, wherein a plurality of types of component feeding systems may be interchangeably mounted to the assembly machine using the mounting device.

15 14. The mounting device of claim 10, wherein said docking channel comprises a base plate and at least two vertical members associated therewith.

20 15. The mounting device of claim 14, wherein said vertical members each have at least two longitudinal grooves therein and where said grooves are staggered on opposite sides of said vertical member.

16. The mounting device of claim 10, wherein said roller alignment rails move reciprocally within said grooves.

25 17. The mounting device of claim 10, wherein said positioning members comprise a bracket and a latch wherein said latch limits the inward position of the component feeding system in relation to said docking channel.

30 18. The mounting device of claim 17, wherein said positioning members further comprise one or more alignment pins for engaging said component feeding

systems, and where said alignment pins further position said component feeding systems.

19. A method for exchanging a component feeding systems on an assembly
5 machine utilizing a component feeder transport, comprising the steps of:

disengaging a latching mechanism to release the component feeder from an operating position in a docking channel;

extending the component feeder away from the assembly system to a safety stop position controlled by a safety stop;

10 disengaging the safety stop linkage so as to allow the component feeder to be moved beyond the safety stop;

positioning an alternate component feeder in a position in alignment with the docking channel;

15 extending the alternate component feeder into the docking channel toward said assembly machine;

seating the alternate component feeder against the positioning member; and

engaging the latching mechanism to lock the alternate component feeder in an operating position.

20 20. The method of claim 19 further comprising the steps of:

coupling the component feeder to a component feeder transport;

securing the component feeder to a component feeder transport and removing the component feeder while it remains secured to the component feeder transport;

25 positioning the alternate component feeder and associated component feeder transport in a position of alignment with the docking channel; and

disengaging the alternate component feeder from its component feeder transport.